[6450-01-P]

DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
RECORD OF DECISION OF THE FINAL SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT FOR THE OAK RIDGE Y-12 NATIONAL SECURITY COMPLEX

AGENCY: Department of Energy, National Nuclear Security Administration

ACTION: Record of Decision

SUMMARY: The U.S. Department of Energy (DOE), is issuing this Record of Decision on the operation of the Y-12 National Security Complex (Y-12) in the State of Tennessee. This Record of Decision is based on the information and analysis contained in the Site-Wide Environmental Impact Statement (EIS) for the Y-12 National Security Complex (DOE/EIS-0309), and other factors, such as the mission responsibilities of the DOE. DOE has decided to implement the Preferred Alternative, which is Alternative 4 (No Action-Planning Basis Operations Plus Construct and Operate a Highly Enriched Uranium (HEU) Materials Facility and Special Materials Complex). This alternative includes the continued operations at Y-12 to meet the NNSA mission requirements and other DOE program activities, together with the construction and operation of two new facilities: HEU Storage Facility and the Special Materials Complex.

FOR FURTHER INFORMATION CONTACT: For further information on the Site-Wide EIS or Record of Decision, or to receive a copy of the Site-Wide EIS, contact: Gary Hartman, Document Manager, U.S. Department of Energy, Oak Ridge Operations Office, Post Office Box 2001, Oak Ridge, Tennessee 37831, (865) 576-0273. For information on the DOE National Environmental Policy Act (NEPA) process, contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance

(EH-42), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585, (205) 586-4600, or leave a message at (800) 472-2756.

SUPPLEMENTARY INFORMATION:

BACKGROUND. That National Nuclear Security Administration (NNSA), a separately organized agency within the DOE, prepared this Record of Decision pursuant to the regulations of the Council on Environmental Quality for implementing NEPA (40 CFR Parts 1500-1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This Record of Decision is based, in part, on DOE's Site-Wide EIS for the Oak Ridge Y-12 National Security Complex (DOE/EIS-0309).

The Y-12 National Security Complex is one of three primary installations on the Oak Ridge Reservation (ORR) in Oak Ridge, Tennessee. The ORR is in eastern Tennessee, approximately 40 km (25 miles) west of Knoxville. The Y-12 area on the ORR covers about 2,197 ha (5,428 acres). The main area of Y-12 is largely developed and encompasses 328 ha (811 acres) with approximately 580 buildings. The land surrounding the main area of Y-12 is used primarily for a buffer area as well as for environmental restoration and waste management activities. Approximately 8,900 workers, including DOE employees and contractors, are at Y-12.

As one of the DOE major production facilities, Y-12 has been the primary site for enriched uranium processing and storage, and one of the primary manufacturing facilities for maintaining the U.S. nuclear weapons stockpile. Y-12 also conducts, and/or supports, nondefense-related mission activities including environmental monitoring, remediation, and decontamination and decommissioning activities of the DOE Environmental Management Program; management of waste materials from past and current operations;

research activities operated by other federal agencies through the Work-for-Others Program and the National Prototyping Center; and the transfer of highly specialized technologies to support the capabilities of the U.S. industrial base.

The Site-Wide EIS considers the environmental impacts of ongoing and proposed activities at Y-12. DOE expects to continue to support new projects and facilities for Y-12 (or consider Y-12 as an alternative site for such facilities or activities). Such new proposals will be considered in programmatic or project-specific NEPA reviews, as appropriate, as they become ripe for analysis. Subsequent NEPA reviews for projects or activities at Y-12 will make reference to, and be tiered from, the Site-Wide EIS.

ALTERNATIVES CONSIDERED. DOE analyzed two No Action alternatives and three "action" alternatives in the Y-12 Site-Wide EIS. The first No Action alternative (Alternative 1A, No Action - Status Quo) is basically a continuation of Y-12 activities (based on 1999 operations), but does not include some Defense Program activities that had not resumed following a 1994 stand-down at Y-12 for safety reasons. The second No Action alternative (Alternative 1B, No Action-Planning Basis Operations) reflects an increase in activities at Y-12 to account for the resumption of all required Defense Program missions. The No Action - Status Quo Alternative (Alternative 1A) is not considered reasonable for future Y-12 operations because it does not meet Y-12 mission needs.

The "action" alternatives are as follows: Alternative 2 (No Action-Planning Basis Operations Alternative Plus HEU Storage Mission Alternative); Alternative 3 (No Action-Planning Basis Operations Alternative Plus Special Materials Mission Alternative); and Alternative 4 (No Action-Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility and Special Materials

Complex). For Alternative 2, DOE analyzed two sub-alternatives: Alternative 2A would construct and operate a new HEU Materials Facility and Alternative 2B would upgrade and expand Building 9215 for HEU storage. All reasonable alternatives are described in greater detail below.

Alternative 1B (No Action - Planning Basis Operations). Under Alternative 1B (No Action -Planning Basis Operations Alternative), Y-12 would continue historic nuclear weapons program missions. This alternative reflects the implementation of the DOE decision in the Stockpile Stewardship and Management Programmatic Environmental Impact Statement Record of Decision (61 FR 68014, December 19, 1996) to maintain the Defense Programs national security mission at Y-12, but to downsize Y-12 consistent with reduced requirements. This includes: (1) Defense Programs capabilities to produce and assemble uranium and lithium weapons components, to recover uranium and lithium materials from the component fabrication process and disassembled weapons, to produce secondaries, cases, and related nonnuclear weapons components, to process and store enriched uranium, and to supply enriched uranium, lithium, and other products; (2) Environmental Management activities at Y-12 related to environmental monitoring, remediation, deactivation and decontamination, and management of waste materials from past and current operations; (3) Office of Science activities operated by Oak Ridge National Laboratory (ORNL); and (4) Defense Programs support of other federal agencies through the Work-for-Others Program, the National Prototype Center, and the transfer of highly specialized technologies to support the capabilities of the U.S. industrial base. The No Action - Planning Basis Operations Alternative also includes activities to store surplus enriched uranium pending disposition in accordance with the Storage and Disposition of Weapons-

Usable Fission Materials Programmatic Environmental Impact Statement Record of Decision (62 FR 3014, January 14, 1997).

Alternative 2A (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility). This alternative includes the No Action - Planning Basis Operations Alternative plus the construction and operation of a new HEU Materials Facility. The HEU Materials Facility would be a single-story concrete structure. It would enable Y-12 to safely and securely store: HEU Categories I and II, including canned subassemblies that contain HEU; and cans containing HEU in metal and oxide forms that are part of the strategic reserve or excess inventories. The HEU Materials Facility would replace the use of existing storage vaults and facilities located within existing Y-12 buildings.

Options for locating the new HEU Materials Facility include two candidate site locations: Site A (located on the west end of the Y-12 site in the West Portal Parking Lot area) and Site B (located on the west end of the Y-12 site in the area of the Y-12 Scrap Metal Yard south of Building 9114, west of the western-most portion of the Y-12 Perimeter Intrusion Detection and Assessment System (PIDAS) and north of Portal 33 and Second Street).

Alternative 2B (No Action - Planning Basis Operations Alternative Plus Upgrade Expansion of Building 9215). This alternative is similar to Alternative 2A, except that the storage of HEU would be accommodated through the expansion of the existing Building 9215. The building would be expanded by approximately 160 by 300 feet, with two floors, and would be sized to handle all of the long-term storage requirements anticipated for Y-12 similar to those described for the HEU Materials Facility. The proposed

site for construction of the Building 9215 expansion is a parcel of land approximately two acres in size located west of Building 9212 and 9998 and north of Building 9215.

Alternative 3 (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New Special Materials Complex). This alternative includes the No Action - Planning Basis Operations Alternative plus the construction and operation of a Special Materials Complex. The Special Materials Complex would house a number of separate processing operations and the support facilities to serve each. Included in the Special Materials Complex would be: (1) beryllium production operations at Y-12; (2) a facility for purification of special materials; (3) a manufacturing/warehouse facility to produce special materials and provide for storage of new materials and parts; (4) an isostatic press for forming blanks for machining; and (5) a core support structure to house common support functions for the complex.

Options for locating the new Special Materials Complex include three candidate sites: Site 1 is approximately 20 acres and is located northwest of Building 9114 and on the north side of Bear Creek Road. Site 2 is approximately 10 acres and is located at the Y-12 Scrap Metal Yard area southeast of Building 9114 and east of the western-most portion of the Y-12 PIDAS; Site 3 is approximately 10 acres and is located on the west end of the Y-12 site in the area of the Y-12 Scrap Metal yard, south of Building 9114, west of the western-most portion of the Y-12 PIDAS and north of Portal 33 and Second Street.

Alternative 4 (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility and Special Materials Complex). This alternative includes the No Action - Planning Basis Operations Alternative plus the construction and operations of a new HEU Materials Facility at one of two candidate sites (Site A or Site B described above under Alternative 2A), and the construction and

operation of a Special Materials Complex at one of three candidate sites (Site 1, 2, or 3 described above under Alternative 3).

PREFERRED ALTERNATIVE. DOE's Preferred Alternative is Alternative 4 (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility and a Special Materials Complex). The Preferred Alternative includes the continued maintenance of existing Defense Programs capabilities and other DOE programs, continued support/infrastructure activities, and implementation of new facility construction projects for the Y-12 HEU Storage Mission and Special Materials Mission (i.e., the HEU Materials Facility, and the Special Materials Complex). The preferred site for the HEU Materials Facility is Site A.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE. Ordinarily, the environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment; it is also the alternative that bests protects, preserves, and enhances historic, cultural, and natural resources. After considering impacts to each resource area by alternative, DOE has identified Alternative 1A (No Action - Status Quo Alternative) as having the fewest direct impacts to the biological and physical environment because operations would not resume to full levels and fewer new construction projects would be implemented. Although DOE does not consider Alternative 1A to be reasonable for future Y-12 operations because it does not meet Y-12 mission needs, it is the environmentally preferable alternative. With respect to the "reasonable" alternatives, the analyses indicate that there would be very little difference in the environmental impacts among the alternatives analyzed and also that any impacts would be small. Of the reasonable alternatives, Alternative 1B (No Action - Planning Basis Operations) would have the

fewest impacts, and thus, is environmentally preferable.

ENVIRONMENTAL IMPACTS OF ALTERNATIVES. DOE weighed environmental impacts as one factor in its decision-making. DOE analyzed existing environmental impacts and the potential impacts that might occur for each reasonable alternative, including the irreversible or irretrievable commitments of resources.

Land Use. There is a small difference in the impacts on land use between the No Action - Planning Basis Operations Alternative and Alternatives 2, 3, and 4, which include the HEU Storage Mission and Special Materials Mission projects. Differences among the alternatives are primarily associated with facility construction. Potential land disturbance would range from 35-51 ha (No Action - Planning Basis) to 45-64 ha (Preferred Alternative). The permanent land disturbance would range from 18-29 ha (No Action - Planning Basis Operations) to 26-37 ha (Preferred Alternative). No land use change would result from implementing any of the alternatives, except for Alternatives 3 and 4 if the Special Materials Complex is constructed at Site 1.

Transportation. There would be a small increase in vehicle traffic on Oak Ridge area roads due to construction activities under each of the Site-Wide EIS alternatives. The construction traffic increase during peak construction periods would range from 85 vehicles per day (No Action - Planning Basis Operations) to 420 vehicles per day (Preferred Alternative). The additional traffic would have a negligible impact on Y-12 site traffic and level-of-service on area roads.

The overall maximum lifetime fatalities from Y-12 annual shipments over the next ten years of all types of materials and waste due to Y-12 operations were estimated to be 2.8 fatalities under each of the

Site-Wide EIS alternatives. Of these estimates, 1.8 fatalities would be due to traffic accidents; 0.9 fatalities would be due to incident-free transport of radiological materials and waste; and 0.006 fatalities would be due to vehicle emissions. There is little variation in impacts between alternatives because effects are small, and any projected increased transport of radioactive materials is not enough to make a significant change in the small effects.

Socioeconomics. Y-12 employment changes would be very small (less than 100) under all the alternatives because operations, including operations associated with new facilities for the HEU Storage Mission and the Special Materials mission, would use existing workers. The employment changes would affect regional population, employment, personal income, and other socioeconomic measures in the region by less than one percent. Accordingly, no adverse socioeconomic impacts would be expected to result from any of the alternatives.

Geology and Soils. No impacts to geology or geological conditions are expected with any of the alternatives. Potential impacts on soil due to disturbance and/or erosion are related to the area of disturbance during construction. The smallest potential increase in soil erosion would result from the No Action - Planning Basis Operations Alternative, and the greatest potential would be with the Preferred Alternative. Standard construction soil erosion control measures would be used to minimize erosion and impacts. New facility site design and layout would address storm water runoff control. No significant impacts on soils are expected.

Soil contamination from past Y-12 operations and activities is being addressed through the Office of Environmental Management's Environmental Restoration Projects at Y-12. Environmental restoration

activities or actions would not change the alternatives in the Site-Wide EIS and would continue to occur at the same rate for all the alternatives.

Water Resources. Water demand for Y-12 Site-Wide EIS alternatives ranges from 20.2 million liters per day of treated water (No Action - Planning Basis Operations) to 20.43 million liters per day of treated water (Preferred Alternative). The total treated water demand of ORR (including Y-12, ORNL, and East Tennessee Technology Park) is approximately 22,290 million liters per year, which is well within the ORR water supply system capacity of 44,347 million liters per year. All water for operations at ORR, including Y-12, is supplied by the Clinch River. Water usage among Y-12 alternatives does not vary appreciably.

Groundwater contamination attributed to Y-12 operations and other waste disposal operations is present in Bear Creek Valley, Upper East Fork Poplar Creek, and the Chestnut Ridge area of Y-12. The contamination is due primarily to past Y-12 operations and other waste management practices rather than current operations. Investigations and cleanup at locations with groundwater contamination would continue at the same rate under any of the Site-Wide EIS alternatives.

Biological Resources. Construction projects under all the alternatives would impact terrestrial resources due to the loss of small amounts of grassland, old-field habitat, and mixed hardwood/conifer forest habitat. The No Action - Planning Basis Operations Alternative would have the least impact, based on area disturbed (35-51 ha), and Alternative 4 (Preferred Alternative) would have the largest impact (45-64 ha). The variation among alternatives is not significant. The potential habitat loss is small compared to available similar habitat in the immediate Y-12 area. With appropriate design and construction best management

practices, no significant adverse impacts to biological resources are projected under any of the Site-Wide EIS alternatives.

Potential impact to wetlands (both direct and indirect) would be least with the No Action - Planning Basis Operations Alternative (0.4ha) and greatest with Alternative 4 (1.2 ha). With appropriate site layout design and construction best management practices, significant adverse impacts would not be expected. In addition, no adverse impacts to aquatic resources are expected from any of the alternatives.

Potential impact to Tennessee-listed endangered and threatened plant species may occur under the No Action - Planning Basis Operations Alternative due to construction of the Environmental Management Waste Management Facility, a separate *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) project activity at Y-12. Prior to construction, DOE will survey the disposal facility construction site for the presence of listed species and consult with the US Fish and Wildlife Service and Tennessee Wildlife Resource Agency, as appropriate. No Federal or state-listed threatened or endangered species would be impacted by proposed new construction projects for the HEU Storage Mission or Special Materials Mission under the other Y-12 Site-Wide EIS alternatives.

Air Quality. Non-radioactive hazardous air pollutants would not be expected to significantly degrade air quality or affect human health under any of the alternatives. The alternatives do not result in large differences in chemical usage or steam from the Y-12 Steam Plant (the major source of criteria pollutants). No net increase in Y-12 building floor space is anticipated under the Preferred Alternative because any added new floor space is expected to be offset by other downsizing activities at Y-12 and the transfer of

mission activities to the new facilities. Air emissions are, therefore, not expected to change by a magnitude that would trigger more stringent regulatory requirements or warrant additional continuous monitoring.

The radiological dose to the maximally exposed individual due to the annual radiological air emissions from Y-12 facilities during normal operations under each of the alternatives would be lower than the National Emissions Standards for Hazardous Air Pollutants limit of 10 millirem per year. The estimated radiological dose to a maximally exposed individual would be 4.5 millirem per year for each of the alternatives.

The calculated collective dose to the population within 80 kilometers (50-miles) of Y-12 for each alternative from the annual radiological air emissions due to Y-12 operations would be 33.7 person-rem per year. These doses were considered in the human health impact analysis.

Visual Resources. There would be no adverse impacts to visual resources that change the overall appearance of the existing landscape, obscure scenic views, or alter the off-site visibility of Y-12 structures under any of the alternatives.

Noise. There would be no change in the on-site noise levels (50 to 70 dBA) or off-site noise levels (35 to 50 dBA in rural locations and 53 to 62 dBA in city of Oak Ridge) due to normal Y-12 operations under any of the alternatives.

Site Infrastructure. Electrical consumption would range from 566,000 megawatt hours per year (No Action - Planning Basis Operations Alternative) to 602,000 megawatt hours per year (Preferred Alternative). There is little difference in projected water usage among the alternatives, approximately 5.3 million additional gallons per day. Annual projected utility demands for all alternatives would be well within system

capabilities. Other infrastructure-related factors, including maintaining roads, communications, steam, natural gas, and facility decommissioning, would be similar for each alternative and would not pose adverse impacts.

Cultural Resources. No impact to historic and cultural resources is expected under the No Action-Planning Basis Operations Alternative. Alternatives 2, 3, and 4 would have a small potential to encounter buried cultural resources due to utility relocation associated with potential construction projects identified in the alternatives. Alternative 4 (Preferred Alternative) would have the largest potential to impact buried cultural resources, since it includes construction of new facilities for both the HEU Materials Storage Mission and the Special Materials Mission. Any potential adverse impacts are anticipated to be minor and able to be mitigated.

No historic properties would be affected by the No Action - Planning Basis Operations Alternative or alternatives 2A, 3, or 4. Alternative 2B includes the expansion of Building 9215 and would be a major alteration of a historic property. Consultation with the Tennessee Historical Commission would be conducted in accordance with procedures in the Y-12 Cultural Resource Management Plan to resolve any adverse effect.

Waste Management. The projected annual waste generation from Y-12 normal operations would not vary appreciably across alternatives from the No Action - Planning Basis Operations Alternative volumes. Liquid and solid low-level waste would increase the greatest under Alternative 4 (Preferred Alternative) by 757 liters (200 gallons) per year and 120 cubic meters (157 cubic yards) per year, respectively. There would be no additional mixed low-level waste (solid or liquid) under Alternatives 2, 3, or 4. Liquid and

solid hazardous waste would increase the most under Alternative 4 (Preferred Alternative), by 14,998 liters (3,962 gallons) per year and 37 cubic meters (48 cubic yards) per year, respectively. Treatment and disposal of these wastes at on-site locations is projected to constitute a small portion of the existing capacity for treatment and disposal.

Worker and Public Health. During construction, yearly non-fatal occupational injuries/illnesses at Y-12 could increase by an estimated maximum of 15 above the No Action - Planning Basis Operations Alternative. During operations, the estimated total number of yearly non-fatal occupational injuries/illnesses for the Y-12 workforce would be the same (424) for all the alternatives.

The annual average dose to Y-12 workers of 11.6 millirem would be the same for all the alternatives and would result in an estimated 0.024 latent cancer fatalities per year. Under alternatives 2 and 4, the number of latent cancer fatalities expected from HEU storage operations workers would decrease due to a reduction in the workforce, but there would be no change in average worker dose compared to the No Action - Planning Basis Operations Alternative. There would be a one-time transfer of stored HEU to the new HEU storage facility under Alternatives 2 and 4. This transfer would result in a total worker dose of 150 person-millirem and 0.002 latent cancer fatalities. Because there are no radiological impacts associated with the Special Materials Complex, the radiological impacts associated with Alternative 3 are the same as the No Action - Planning Basis Operations Alternative. Under all of the Site-Wide EIS alternatives, the dose to the maximally exposed individual would be 4.5 millirem per year and result in an estimated 2.65×10^{-6} latent cancer fatalities per year of exposure. The 80 kilometer (50 mile) population dose under all of the alternatives would be 33.7 person-rem per year, and the

corresponding estimated number of latent cancer fatalities would be 1.69 x 10^{-5} per year. Thus, no significant adverse health effects would be expected from any of the alternatives for Y-12.

Environmental Justice. Based on the analysis of all resource areas and demographic information on low-income and minority populations, DOE does not expect any environmental justice related issues (i.e., projected impacts are not disproportionately high and adverse for minority or low-income populations in the area) from the continued operation of Y-12 under any of the alternatives.

Facility Accidents. The accident analyses considered a variety of initiators (including natural and manmade phenomena), the range of activities at Y-12, and the range of radioactive and other hazardous materials at Y-12. The operational accident analysis included the following scenarios that would result in multiple source releases of hazardous materials: beyond evaluation-basis earthquake accident; criticality accident; fire involving radioactive materials; fire involving chemicals; and a chemical release due to loss of containment. The beyond evaluation-basis earthquake accident dominates the radiological risk due to accidents at Y-12 because it involves radiological releases at multiple facilities and is considered credible (that is, it would be expected to occur with a frequency of less than 5 x 10^{-4} per year but greater than 1 x 10^{-6} per year). It is noteworthy that the consequences of such a seismic event are dependent on the frequency of the earthquake event, the facility design, and the amount of materials that could be released due to the earthquake; such features do not change across the alternatives, so the impacts of these accidents are the same for all the Site-Wide EIS alternatives.

The risks were estimated conservatively in terms of both frequency of the event and the consequences of such events. (In particular, it is noteworthy that the analysis assumes the structural

collapse of the building accompanied by the most significant internal events, including fire and explosions that create a path for release of material outside of the building.) The total risk of an accident is the product of the accident frequency and the consequences to the total population within 80 kilometers (50 miles). Risks of excess latent cancer fatalities per year of operation would not be expected to exceed 2.8×10^{-5} for the bounding accident analyzed. Statistically, this would equate to a maximum of one latent cancer fatality approximately every 35,700 years of operation.

The risk for release of chemicals, such as hydrogen fluoride, is calculated similarly as the product of the frequency and numbers of people exposed to greater than the selected guideline concentrations, Emergency Response Planning Guidelines (ERPG - 2). (ERPG-2 is the maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without irreversible or serious health effects or symptoms that could impair their abilities to take protective action). Under all alternatives, the risk for chemical releases ranges from between 80 and 190 workers exposed (fire involving chemicals accident scenario) to between 80 and 310 workers exposed (chemical release due to loss of containment accident scenario).

COMMENTS ON THE FINAL SITE-WIDE EIS. DOE distributed approximately 500 copies of the Final Site-Wide EIS to appropriate Congressional members and committees, the states of Tennessee, Georgia, and North Carolina, local governments, other Federal agencies, and other interested stakeholders. Prior to the issuance of this ROD, DOE received two comment letters regarding the Final Y-12 Site-Wide Environmental Impact Statement. The first letter, from the Tennessee Department of Environment and Conservation (TDEC), provided clarifications and minor technical corrections to the

"Affected Environment" chapter of the SWEIS (Chapter 4). The TDEC also reiterated their support of Alternative 4, the preferred alternative. The second letter, from the Citizens Advisory Committee of the Oak Ridge Reservation Local Oversight Committee, contained two comments and several technical corrections. The comments, which were consistent with comments this group previously submitted on the Draft Y-12 Site-Wide Environmental Impact, were responded to in the Final Y-12 Site-Wide Environmental Impact, and no additional response is necessary. The group also stated their preference that the Special Materials Complex be sited at a "brownfield" site. Although these comments, clarifications and minor technical corrections did not change any of the environmental impacts of the alternatives, they were considered by the Department in issuing this ROD.

OTHER DECISION FACTORS. As directed by the President and Congress, the DOE/NNSA is responsible for maintaining the safety, security and reliability of the country's nuclear weapons stockpile. In addition, DOE has national security, energy resources, environmental quality, and science and technology mission lines, which it supports at a number of facilities across the United States. DOE/NNSA directs and funds Y-12 activities in support of its programs and missions. While protecting human health and the environment, DOE/NNSA needs to continue to fulfill its responsibilities as mandated by statutes, Presidential Decision Directives, and Congressional authorization and appropriations.

As noted in the Final Site-Wide EIS, Y-12 houses unique facilities and expertise that have been developed over the past 50 years. These capabilities have served national security and other national needs successfully in the past. Under current planning, the U.S. will maintain a nuclear weapons stockpile and require manufacturing capabilities to address issues of national importance for the maintenance of that

stockpile and for other purposes, including assuring the safety and reliability of that stockpile. The unique facilities and expertise at Y-12 are needed to address these issues. These factors were also considered (in addition to the human health and environmental impact information discussed above) in reaching this Record of Decision.

DECISION. DOE/NNSA has decided to continue to operate Y-12 for the foreseeable future at the planning basis operations level and to construct two new facilities to support Y-12 missions: HEU Storage Facility and Special Materials Complex. DOE/NNSA is implementing the Preferred Alternative, Alternative 4 (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility (Site A location) and Special Materials Complex). This alternative includes the planned required operations of the NNSA mission at Y-12 and the continued operations/support at existing levels for other Y-12 activities conducted by other DOE offices (e.g., Environmental Management; Nuclear Energy, Science and Technology; Nuclear Nonproliferation and National Security) and nondefense research and development programs conducted by ORNL, Work-for-Others, and Technology Transfer. In addition, this alternative includes the construction and operation of a new HEU Materials Facility and Special Materials Complex. This alternative also includes the continued maintenance of existing capabilities, and continues support and infrastructure activities. The following discussion describes the major actions that will be taken under Alternative 4, with an emphasis on those areas that have had the most extensive programmatic or public interest. The decision in this Record of Decision will be reflected in DOE/NNSA budget requests and management practices. However, the actual implementation of these decisions is

dependent on DOE/NNSA funding levels and allocations of DOE/NNSA budgets across competing priorities.

Planning Basis Operations– DOE/NNSA remains committed to meeting the NNSA Weapons Stockpile Management Program requirements assigned to Y-12, as described in the Final SWEIS. As part of its implementation of the Preferred Alternative, DOE will continue all activities associated with the resumption of remaining enriched uranium operations that were shut-down due to the Y-12 1994 stand-down. The planning basis operations level also includes continuing the current, planned, and weapons-directed activities associated with the major components of the Weapons Stockpile Management Program. Other DOE Program activities at Y-12 would continue at current levels for the foreseeable future, including those conducted by Environmental Management; Nuclear Nonproliferation and National Security; Nuclear Energy Science and Technology; and Nondefense Research and Development Program activities by ORNL, the Work-for-Other Program, and Technology Transfer Program.

The Department has decided that under the Preferred Alternative, operations at Y-12 associated with long-term storage of HEU, including transport and receiving, would be transferred to the new HEU Materials Facility, when completed. In addition, current special materials operations would be replaced by operations in the new Special Materials Complex, when completed.

HEU Storage Mission–The Department has decided to construct the new HEU Materials Facility at Site A as described in Section 3.2.3.2 of the Final Y-12 SWEIS. Site A is the Y-12 West Portal Parking Lot, located just north of Portal 16. Site A was selected over Site B based on overall cost, proximity to the major Y-12 production manufacturing facilities, construction phase security issues and

impact on current production activities, and environmental impacts. The HEU Materials Facility would be used for long-term storage of Categories I and II HEU. The new facility would provide the capacity to store approximately 14,000 cans and 14,000 drums of HEU, a surge capacity area for an additional 4,000 drums, and a storage area for materials currently under international safeguards. Constructing the new facility would consolidate and modernize the HEU storage operations at Y-12. Consolidating HEU in the HEU Materials Facility would enable Y-12 to meet its HEU storage mission in a more safe and efficient manner; improve nuclear materials security and accountability; minimize the number of personnel required for operations and security; and enhance worker and public health and safety, and environmental protection.

Special Materials Mission– The Department has decided to construct the Special Materials Complex at Y-12. A location for construction of the Special Materials Complex has not been decided. Ongoing studies involving the Special Materials mission and project configuration and design needs must be completed before a decision on a location for these facilities can be made. The engineering design for this facility will proceed while the Department is completing the project review and additional studies. Once these studies are completed, DOE/NNSA intends to review the Site-Wide EIS for completeness and amend the Site-Wide and ROD, as appropriate, to announce the site selection. Constructing the Special Materials Complex would modernize special materials operations at Y-12, reduce the health risk to workers and the public, and ensure efficient production of adequate quantities of special materials (e.g., beryllium) to meet projected nuclear weapons stockpile requirements for the next 50 years.

MITIGATION MEASURES. The Site-Wide EIS includes a discussion of existing programs and plans and controls built into the operations at Y-12, including operating within applicable regulations, DOE Orders, contractual requirements and approved polices and procedures. No new mitigation measures were identified. It is unnecessary to prepare a Mitigation Action Plan under 10 CFR 1021.331.

CONCLUSION. DOE/NNSA has considered environmental impacts, stakeholders concerns, and national policy in its decisions regarding the management and use of Y-12. The analysis contained in the Site-Wide EIS is both programmatic and site-specific in detail. It is programmatic from the perspective of broad, multi-use facility management and site-specific in the detailed project and program activity analysis. The impacts identified in the Site-Wide EIS were based on conservative estimates and assumptions. In this regard, the analyses bound the impacts of the alternatives evaluated in the Site-Wide EIS.

DOE has decided to implement Alternative 4 (No Action - Planning Basis Operations Alternative Plus Construct and Operate a New HEU Materials Facility and Special Materials Complex), i.e., the Preferred Alternative in the Final Site-Wide EIS. The location for the HEU Materials Facility construction is in the area identified as Site A (the Y-12 West Portal Parking Lot) in the Final Site-Wide EIS. A location for construction of the Special Materials Complex has not been decided. Ongoing studies involving the special materials mission and project configuration and design needs must be completed before a decision on a location for the Special Materials Complex can be made.

Issued in Washington, DC, this ____4th_____ day of February, 2002

/s/

Spencer Abraham

Secretary of Energy